



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,404	12/12/2003	Elizabeth Davis	22104	2121
20551	7590	12/20/2005	EXAMINER	
THORPE NORTH & WESTERN, LLP. 8180 SOUTH 700 EAST, SUITE 200 SANDY, UT 84070			ROSSI, JESSICA	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,404

Applicant(s)

DAVIS ET AL.

Examiner

Jessica L. Rossi

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/25/05, after-final amd.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19,24,26,27 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19,24,26,27 and 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 11/25/05. Claims 22-23, 28-29 and 35-36 were cancelled. Claims 19, 24-, 26-27 and 30-34 are pending.
2. The claim objections and 112 1st and 2nd paragraph rejections set forth in paragraphs 5-9 of the previous action have been withdrawn in light of the present amendment.
3. The rejection of claim 24 under 35 USC 102(b) as being anticipated by Otani et al., as set forth in paragraph 11 of the previous action, has been withdrawn in light of the present amendment.
4. The rejection of claim 19 under 35 USC 103(a) as being unpatentable over Otani in view of Martin, as set forth in paragraph 13 of the previous action, has been withdrawn in light of the present amendment.
5. The rejection of claim 34 under 35 USC 103(a) as being unpatentable over Otani in view of Martin and further in view of Kersey et al., as set forth in paragraph 14 of the previous action, has been withdrawn in light of the present amendment.
6. The rejection of claims 19 and 24 under 35 USC 103(a) as being unpatentable over Martin in view of Otani, as set forth in paragraph 15 of the previous action, has been withdrawn in light of the present amendment.
7. The rejection of claim 34 under 35 USC 103(a) as being unpatentable over Martin in view of Otani and further in view of Kersey, as set forth in paragraph 16 of the previous action, has been withdrawn in light of the present amendment.

Art Unit: 1733

8. The rejection of claim 34 under 35 USC 103(a) as being unpatentable over Martin in view of the collective teachings of Freeman et al. and Freeman, as set forth in paragraph 17 of the previous action, has been withdrawn in light of the present amendment.

9. The rejection of claim 34 under 35 USC 103(a) as being unpatentable over Martin in view of Mack et al. and Kersey et al., as set forth in paragraph 18 of the previous action, has been withdrawn in light of the present amendment.

10. It is noted that the limitations now being claimed in claims 19, 24 and 34 were previously examined in claim 32 but no rejection was set forth anticipating and/or rendering claim 32 obvious. However, such limitations are now being rejected in the present office action.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 24, 26-27 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 24, one reading the specification would understand that the heating and vacuum applying step causes the plastic material to conform to the mold to form the substantially enclosure and therefore it is unclear as to how this can be set forth as a separate step in part (b) instead of being part of the step set forth in part (c) – note all other independent claims include this limitation as part of the heating and vacuum applying step. Applicant is asked to clarify. It is suggested to delete “and causing the plastic material to conform to the mold to form a substantial enclosure” from part (b) and insert --causing the plastic material to conform to the

Art Unit: 1733

mold to form a substantial enclosure, and causing the plastic material-- after “plastic material” in part (c).

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Figge et al. (US 4230764).

With respect to claim 24, Figge teaches a method for forming a vessel by disposing a bondable layer of fibrous material 12 against the inner surface of a mold 10 shaped to form a substantial enclosure, disposing a sheet of plastic material 2 over the mold, heating and applying a vacuum to the plastic material causing the plastic material to conform to the mold to form a substantial enclosure and causing the plastic material to embed into an exposed portion of the fibrous material of the bondable layer in the mold and attach the bondable layer to the substantial enclosure, and removing the substantial enclosure with the bondable layer from the mold (Figures 1-3; column 2, lines 24—60; column 3, lines 6-9). The reference teaches the bondable layer being a resin impregnated fibrous layer (column 2, lines 32-34), which the skilled artisan would have appreciated being inherently tacky at room temperature due to the presence of the uncured resin, and therefore the skilled artisan would have appreciated the bondable layer being adhered against the mold surface.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Figge et al. in view of Grimes et al. (US 5266249).

With respect to claim 24, if it is not taken that the resin impregnated fibrous layer of Figge would adhere to the mold surface, the examiner provides the teaching of Grimes (column 6, lines 10-24) as evidence to support the statement made in paragraph 14 above.

17. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Foster et al. (US 4337116) in view of Miller et al. (US 6773653).

With respect to claim 24, Foster teaches a method for forming a vessel by disposing a bondable layer of fibrous material 10 against the inner surface of a mold 12 shaped to form a substantial enclosure, disposing a sheet of plastic material 16 over the mold, heating and applying a vacuum to the plastic material causing the plastic material to conform to the mold to form a substantial enclosure and causing the plastic material to embed into an exposed portion of the fibrous material of the bondable layer in the mold and attach the bondable layer to the substantial enclosure, and removing the substantial enclosure with the bondable layer from the mold (Figure 5; abstract; column 2, lines 44-62; column 3, lines 37-38; column 6, lines 35-61; column 7, lines 10-11 and 50-63; column 8, lines 27-28). The reference is silent as to adhering the bondable fibrous layer against the mold surface.

It would have been obvious to adhere the fibrous bondable layer against the mold surface in the vacuum forming process of Foster because adhering a layer against the mold surface in a vacuum forming process is known in the molding art for preventing the layer from displacing prior to or during a molding process, as taught by Miller (column 18, lines 47-51; column 23, lines 17-22).

18. Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zafiroglu (US 5635271) in view of Miller et al.

With respect to claim 24, Zafiroglu teaches a method for forming a vessel by disposing a bondable layer of fibrous material 24 against the inner surface of a mold (not shown) shaped to form a substantial enclosure, disposing a sheet of plastic material 22 over the mold, heating and applying a vacuum to the plastic material causing the plastic material to conform to the mold to form a substantial enclosure and causing the plastic material to embed into an exposed portion of the fibrous material of the bondable layer in the mold and attach the bondable layer to the substantial enclosure, and removing the substantial enclosure with the bondable layer from the mold (Figure; column 2, lines 31-42). The reference is silent as to adhering the bondable fibrous layer against the mold surface.

It would have been obvious to adhere the fibrous bondable layer against the mold surface in the vacuum forming process of Zafiroglu because adhering a layer against the mold surface in a vacuum forming process is known in the molding art for preventing the layer from displacing prior to or during a molding process, as taught by Miller (column 18, lines 47-51; column 23, lines 17-22).

Regarding claim 26, Zafiroglu teaches bonding another item 30 to the bondable layer (Figure; column 2, lines 52-60).

19. Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zafiroglu in view of Figge et al. and Miller et al.

With respect to claim 24, if it is not taken that the thermo/vacuum forming process of Zafiroglu is responsible for the plastic sheet embedding into the exposed portion of the fibrous bondable layer it would have been obvious use a thermo/vacuum forming process that would perform such a bonding step in addition to conforming the plastic material to the mold to form the substantial enclosure because one reading the reference would have appreciated that it is not concerned with how the plastic and fibrous layers are bonded (column 3, lines 3-8) and because such a thermo/vacuum forming process is known in the art, as taught by Figge (see paragraph 14 above for complete discussion), where this eliminates the need for a separate bonding step prior to the thermo/vacuum forming step.

20. Claims 19, 27 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zafiroglu and Miller, or alternatively, Zafiroglu and Figge and Miller, as applied to claim 24 above and further in view of the collective teachings of Mueller et al. (US 5543225) and Gallagher et al. (US 5580501).

Regarding claim 27, Zafiroglu is silent as to the other item 30 being a fiber with a resin matrix. It is noted that the item 30 is a rigid foam layer that is bonded to the bondable fibrous layer by placing the plastic sheet and bondable fibrous layer composite into a mold and introducing a foamable resin material into the mold (column 2, lines 52-60; column 5, lines 4-6).

It would have been obvious to use a foamable resin material that is reinforced with fibers, such that a “fiber with a resin matrix” is bonded to the bondable fibrous layer in the process of Zafiroglu, because fiber-reinforced foamable materials are known in the art, as taught by the collective teachings of Mueller (column 1, lines 6-8; column 2, line 62) and Gallagher (Figure 1; column 4, lines 14-24), where the presence of fibers in the foam serves to strengthen the foam and hence the finished product.

Regarding claim 19, all the limitations were addressed above with respect to claims 24 and 27.

Regarding claim 31, the skilled artisan would have appreciated that the foam layer 30 is “wrapped” around the substantial enclosure during the foaming process.

Regarding claim 30, all the limitations were addressed above with respect to claim 31.

With respect to claim 32, all the limitations were addressed above with respect to claims 19 and 27.

Regarding claim 33, all the limitations were addressed above with respect to claims 30 and 31.

21. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zafiroglu in view of the collective teachings of Mueller et al. and Gallagher et al., or alternatively, Zafiroglu in view of Figge et al. and the collective teachings of Mueller and Gallagher.

With respect to claim 34, all the limitations were addressed above; however, it is noted that this claim does not require that the bondable layer be adhered against the mold surface.

Art Unit: 1733

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JESSICA ROSSI
PRIMARY EXAMINER**

